

WHAT IS CLAIMED IS:

1. A back flow preventer, comprising:

a housing having a passageway configured for the transport of a fluid therethrough, the housing having an inlet and an outlet defining at least a portion of the passageway, the inlet made of a different material than the outlet;

5 a first check valve disposed in the passageway, the first check valve configured for allowing fluid to flow through the passageway in the direction from the inlet to the outlet; and

a second check valve disposed in the passageway, the second check valve configured for allowing fluid to flow through the passageway in the direction from the inlet to the outlet.

2. The back flow preventer as set forth in claim 1, further comprising a resilient diaphragm disposed in the passageway and engaging the first check valve; and

wherein the housing defines a vent located between the first and second check valves, and wherein during a failed condition the passageway is in fluid communication with the vent
5 and fluid located between the first and second check valves exits the housing through the vent.

3. The back flow preventer as set forth in claim 1, wherein the inlet is made of a material that is copper based.

4. The back flow preventer as set forth in claim 3, wherein the inlet is made of brass.

5. The back flow preventer as set forth in claim 1, wherein the outlet is made of stainless steel.

6. The back flow preventer as set forth in claim 1, wherein the surface of the housing forming the passageway from the inlet to a seat of the first check valve is made of a copper based material, and wherein the surface of the housing forming the passageway from the seat of the first check valve to the outlet is made of a non-copper based material.

7. The back flow preventer as set forth in claim 1, wherein the inlet is configured so as to be threaded directly onto a pump, and wherein the outlet is configured for attachment to a stainless steel tube.

8. The back flow preventer as set forth in claim 1, wherein the first and second check valves are poppet type valves, and wherein the second check valve is made at least partially of plastic.

9. The back flow preventer as set forth in claim 1, wherein the inlet is made of brass and the outlet is made of stainless steel.

10. A back flow preventer, comprising:

a housing having a body intermediate an inlet and an outlet, the inlet having an inlet surface that defines an inlet passageway, the inlet surface is made of a first material, the body having a body surface that defines a body passageway, the body surface is made of a second material, the outlet having an outlet surface that defines an outlet passageway, the inlet passageway, body passageway, and outlet passageway are configured for allowing the transport of a fluid therethrough;

a first check valve having a first check valve seat, the first check valve seat is disposed between the inlet passageway and the body passageway, the first check valve is configured for allowing fluid to flow from the inlet passageway to the body passageway;

a second check valve disposed in the body passageway and configured for allowing fluid to flow from the body passageway to the outlet passageway; and

wherein the first material is different than the second and third materials.

11. The back flow preventer as set forth in claim 10, wherein the second and third materials are the same material.

12. The back flow preventer as set forth in claim 11, wherein the first material is brass and the second and third materials are stainless steel.

13. The back flow preventer as set forth in claim 10, further comprising a resilient diaphragm incorporated into the first check valve seat; and

wherein the body defines an annular chamber located radially outward from the body passageway, wherein the inlet and the body define an exhaust passageway in communication with the annular chamber and the outside of the housing, the annular chamber and the exhaust passageway forming a vent; and

wherein the resilient diaphragm selectively isolates the annular chamber from the body passageway such that in a failed condition the resilient diaphragm is open in order to place the body passageway into communication with the annular chamber and allow fluid in the body passageway to be transported into the annular chamber, into the exhaust passageway, and out of the housing.

14. The back flow preventer as set forth in claim 10, wherein the first material is copper based.

15. The back flow preventer as set forth in claim 14, wherein the first material is brass.

16. The back flow preventer as set forth in claim 10, wherein the second and third materials are both stainless steel.

17. The back flow preventer as set forth in claim 10, wherein the first material is copper based, and wherein both the second and third materials are non-copper based.

18. The back flow preventer as set forth in claim 10, wherein the inlet is configured so as to be threaded directly onto a pump.

19. The back flow preventer as set forth in claim 10, wherein the first and second check valves are poppet type valves, and wherein the second check valve is made at least partially of plastic.

20. A back flow preventer, comprising:

a housing having a body intermediate an inlet and an outlet, the inlet having an inlet surface that defines an inlet passageway, the inlet surface is made of brass, the body having a body surface that defines a body passageway, the body surface is made of stainless steel, the outlet having an outlet surface that defines an outlet passageway, the outlet surface is made of stainless steel, the inlet passageway, body passageway, and outlet passageway are configured for allowing the transport of a fluid therethrough;

a first check valve having a first check valve seat, the first check valve seat is disposed between the inlet passageway and the body passageway, the first check valve is configured for allowing fluid to flow from the inlet passageway to the body passageway;

a second check valve disposed in the body passageway and configured for allowing fluid to flow from the body passageway to the outlet passageway;

a resilient diaphragm incorporated into the first check valve seat; and

wherein the housing defines a vent located between the first and second check valves, wherein the vent is selectively isolated from the body passageway by the resilient diaphragm, and wherein during a failed condition the resilient diaphragm is open such that the body passageway is in fluid communication with the vent and fluid located in the body passageway exits the housing through the vent.